

NDACC Data Protocol

The primary goal of the Network for the Detection of Atmosphere Composition Change (NDACC) is to obtain high-quality measurements of a broad range of atmospheric chemical species and parameters. The initial objective of NDACC (formerly the Network for the Detection of Stratospheric Change) was to make observations through which changes in the physical and chemical state of the stratosphere could be determined and understood. While the Network remains committed to monitoring changes in the stratosphere, with an emphasis on the long-term evolution of the ozone layer (i.e., its decay, likely stabilization and expected recovery), its priorities have broadened considerably to encompass

- detecting trends in overall atmospheric composition and understanding their impacts on the stratosphere and troposphere,
- studying atmospheric composition variability at interannual and longer timescales,
- establishing links and feedbacks between climate change and atmospheric composition,
- calibrating and validating space-based measurements of the atmosphere,
- supporting process-focused scientific field campaigns, and
- testing and improving theoretical models of the atmosphere.

The NDACC is an international activity, involving and requiring the participation of scientists around the world. It has been endorsed by the United Nations Environment Programme (UNEP) and the International Ozone Commission (IO3C) of the International Association of Meteorology and Atmospheric Physics (IAMAP). It has also been recognized by the World Meteorological Organization (WMO) as a major contributor to WMO's Global Atmosphere Watch (GAW).

It is the spirit and purpose of the NDACC to foster the broadest possible collaboration among interested scientists, including quick access to NDACC data. However, with any good measurements, the investigators themselves bear the ultimate burden of responsibility for data quality. The NDACC Data Protocol recognizes that, in order to produce a verifiable data product, sufficient time is needed to collect, reduce, test, analyze, and intercompare the streams of preliminary analyses from each of the NDACC observing sites. This protocol is structured to ensure excellent data quality while providing quick data access.

This data protocol consists of the following principles:

- 1) Any NDACC investigator may establish the scientific collaborations needed for the optimum testing and verification of his or her measurements. Such collaborations are, in fact, strongly encouraged.
- 2) Intercomparison among NDACC instruments is a critical element of the analysis / verification process. To this end, all NDACC Principal Investigators (PIs) shall place their preliminary analyses of measurements in the NDACC Data Host Facility

(DHF) as rapidly as possible and no later than one year after being obtained. The DHF will provide ready access of the data within the international NDACC science community.

- 3) Since the nature of small-trends detection requires an extremely high level of measurement confidence, the Data Protocol recognizes that multiple seasonal analyses may be required for observations from both individual and multiple sites. It is expected that such a procedure shall yield the verifiable product referred to as “NDACC data” within a two-year period after acquisition. Co-authorship shall be offered on publications resulting from the verification procedure to those investigators participating in the process.
- 4) After the above verification, NDACC data will be available to anyone through centralized scientific data archiving and distribution facilities.
- 5) In cases where instrument performance and data retrieval have attained a high level of maturity, the associated NDACC investigator is encouraged to approve the public release of the data on a time scale shorter than the two-year verification period mention in item (3).

Special cases will no doubt arise, and will warrant discussion and resolution by the NDACC Steering Committee. For example, such exceptions might include (i) campaigns in the vicinity of an NDACC station for which earlier centralized access to the preliminary analyses described under item (2) would help to achieve the goals of the campaign, (ii) geophysical episodes for which such analyses might be useful in planning a research response, or (iii) satellite intercomparison and validation activities.

People who use NDACC data in a publication are requested to include the following acknowledgment:

“The data used in this publication were obtained as part of the Network for the Detection of Atmospheric Composition Change (NDACC) and are publicly available (see <http://www.ndacc.org>).”